

Notice of Allowability

Application No.

10/828,816

Examiner

Tesfaldet Bocure

Applicant(s)

GABORIAU ET AL.

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/23/07.
2. ☒ The allowed claim(s) is/are 1-25.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Tesfaldet Bocure
Primary Examiner
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EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In the Specifications:

Page 7, paragraph [0025], "PWM 202" has been changed to read as ---PWM 204---.

In the Abstract of the Disclosure

The title, "CIRCUITS AND METHODS FOR REDUCING NOISE DISTORTION AND NOISE IN PULSE WIDTH MODULATION SYSTEMS UTILIZING FULL - BRIDGE DRIVERS " has been deleted.

Remarks:

2. The above Examiner's Amendment was made to correct the minor typographical error to the disclosed subject matter with respect to PWM 204 in fig. 3 and to delete the title in the abstract of the disclosure.

3. The following is an examiner's statement of reasons for allowance: The claimed subject matter in claims 1-25 is allowable because the arts of record fail to teach or

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fairly suggest the claimed: "A pulse width modulation circuit (claimed method in claim 8) for driving a full-bridge output load comprising a single pulse width modulation stage (see PWM 204 in fig. 3) for generating a pulse width modulated data stream (PWM_OUT) and an inverted pulse width modulated (PWM_OUTB) data stream from an input signal for driving the respective terminals of the full-bridge output load (see input to 301a, 301b and 302a and 302b of the full-bridge 206) in combination with the delaying the inverted or complemented pulse width modulated data stream" in claims 1 and 8; and

"An audio circuit (claimed pulse-width modulation state for driving a full load in claim 21) comprising: a delay circuit for delaying a selected one of the pulse width modulated data stream and the another pulse width modulated data stream such that edges of the pulse width modulated data stream at the first node are temporally spaced from corresponding edges of the inverse (see inverter 504 in fig. 5) of the pulse width modulated data stream at the second node, in combination with the claimed PWM engine and first and second driver in claim 13; an inverter for inverting the second pulse width modulated data stream; a delay stage for delaying by a selected amount an inverted second pulse width modulated data stream output from the inverter, a delayed inverted second pulse-width modulated data stream output from the delay stage for driving a second terminal of the full-bridge load; and in combination with the claimed first and second path" in claim 21.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patent numbers 5,631,817 and 6,614,208 and US patent Publication numbers 2003/0042976 and 2007/0116109 issued to Minami, Narita, Midya et al. and Stanley respectively disclose a pulse width modulated data stream for driving a full-bridge load.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

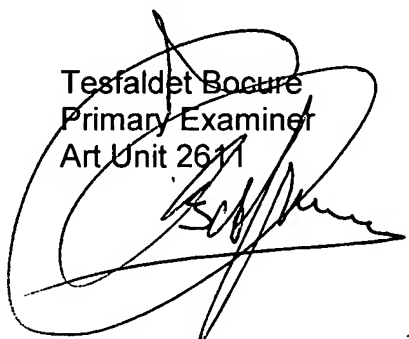
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tesfaldet Bocure whose telephone number is (571) 272-3015. The examiner can normally be reached on Mon-Thur (7:30a-5:00p) & Mon.-Fri (7:30a-5:00p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tesfaldet Bocure
Primary Examiner
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T. Bocure